ORIGINAL

Before the
Federal Communications Commission
Washington, D.C. 20544

In the Matter of	)	
	)	
Implementation of Section 304 of the Telecommunications Act of 1996	)	CS Docket No. 97-80
	)	
Commercial Availability of Navigational Devices	)	

COMMENTS OF MOTOROLA

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SUMMARY

The hallmark of the 1996 Telecommunications Act is to promote competition in and lessen regulation of telecommunications products and services. That competition and market flexibility will produce substantial consumer benefits and more innovative products and services. One of these specific regulatory reform provisions, Section 629, is designed to promote the commercial availability of customer equipment offered over multichannel video programming distribution (MVPD) networks through market forces and industry developed standards. To this end, rules that promote innovation and "technological neutrality" best serve consumer needs and the public interest.

Motorola therefore recommends that the Commission strive to adopt regulations that are least intrusive to natural marketplace decisionmaking. We believe that adopting a "right to attach" which would give a consumer the right to purchase and connect equipment to an MVPD network could be such an approach. This right will create the incentives for competitive equipment markets to develop as customers are free to select from alternative solutions and manufacturers are encouraged to develop new products. Further, given the availability of well-established distribution channels for other related consumer electronic and computer equipment, cable equipment will be available to consumers through multiple sources as the market warrants.

Motorola also believes that adopting a right to attach with limitations is most consistent with the Commission's obligation to protect the valid security interests of MVPD operators. By adopting a legal right to attach and leaving technical standards to market forces, the Commission provides operators many options in selecting specific conditional access and

security mechanisms that help protect their significant investment. Congress plainly recognized an operator's interest in maintaining system security by including the restriction that any rules adopted pursuant to the Act not jeopardize security.

The Commission should not attempt to adopt equipment standards to promote equipment availability. Mandated standards would be counterproductive and interfere with the beneficial operation of the market for MVPD consumer equipment. This is particularly true of emerging markets -- such as the market for cable modems -- where various competitors are all seeking definition and market acceptance of their products, and where industry standards efforts are already underway. Notably, industry efforts such as CableLab's Multimedia Cable Network Systems (MCNS) and Institute of Electrical and Electronics Engineers' (IEEE) Committee 802.14 are already focused on developing specifications which help the industry move toward multiple sourcing, retail distribution, and volume manufacturing. Motorola and many competitive manufacturers are already engaged in the MCNS and IEEE activities. Given these industry efforts, Motorola believes that mandating standards at this time would hinder the development in these nascent markets and foreclose consumer choice.

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Motorola, Inc. ("Motorola")[1] respectfully submits its comments in response to the above-captioned *Notice of Proposed Rulemaking* regarding the implementation of Section 629 of the Communications Act.[2] The Commission can establish a customer "right to attach" specific types of consumer equipment to an MVPD network provided that the device does not cause network harm or compromise system security. In implementing this approach, the Commission should also recognize the real differences in MVPD and telecommunications

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[1] Motorola is one of the world's leading providers of components and services for wireless communications, semiconductors, and advanced electronic systems. The company's major equipment businesses include paging and data communications, cellular telephone, two-way radio, personal communications services, automotive, defense, and space electronics, and other products. Motorola's Multimedia Group and Information Systems Group, are units of the Messaging, Information & Media Sector, which develops, manufactures and markets systems for voice, data and video communications over advanced broadband multimedia platforms.

[2] *Implementation of Section 304 of the Telecommunications Act of 1996, Commercial Availability of Navigation Devices*, FCC 97-53 (CS Docket No. 97-80) (rel. Feb. 20, 1997) ("*Notice*" or "*NPRM*").

networks, leave standards to the marketplace, and avoid jeopardizing an operator's right to choose whatever security and access technologies best protects its network investment. Motorola believes this approach fulfills all the statutory objectives and underlying purposes of the Act and allows maximum competition among technologies responsive to customer demands.

I. INTRODUCTION.

The 1996 Act establishes far-reaching regulatory reforms in the telecommunications and video services distribution marketplace. For example, Congress amended the Communications Act to encourage telephone company entry into video programming distribution, promote cable company provision of telephony services, and minimize the burdens of federal and local regulation.[3] In doing so, Congress clearly recognized the benefits of using increased competition and market forces to advance consumers' interests by reducing prices and maximizing consumer choice in the types of available products and distribution platforms. In the context of these changes, both MVPD and telecommunications providers are all weighing various options for investment in new technologies and services.

As part of the Telecommunications Act of 1996, Congress added a new Section 629 to the Communications Act ("the Act"), designed to ensure the "commercial availability" of

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[3] Telecommunications Act of 1996, Pub. L. No. 104-104, 110 Stat. 56 (1996) ("Telecommunications Act of 1996" or "1996 Act"), § 301(f) (Cable Equipment Compatibility); § 301(j) (Equipment Aggregation); § 302 (Telephone Company Provision of Cable Service); § 303 (Preemption of Franchise Authority of Telecommunications Service).

equipment used to access MVPD programming and other services.[4] First, the Act directs the Commission, in consultation with industry standards-setting organizations, to ensure the "commercial availability" of specific types of devices used by consumers to access MVPD services from sources unaffiliated with an MVPD.[5] In addition, the Act requires that any rules do not "jeopardize security" of an MVPD system or otherwise "impede the legal rights of a provider . . . to prevent theft of service."[6] Finally, Congress requires the Commission to waive its regulations in order to promote the development or introduction of a new technology and cease to apply regulations when competitive conditions are present.[7] Motorola submits that the plain language of Section 629 establishes a clear framework for the Commission to follow in ensuring commercial availability and precisely limiting the Commission's ability to adopt regulations that diminish system security or impede technological innovation.

The framework and plain language of the Act also clearly illuminate several interrelated Congressional objectives. First, Section 629 indicates that Congress intended to promote consumer choice and competition for limited types of equipment by making equipment available from sources unaffiliated with an MVPD provider. Indeed, Congress noted that a purpose of Section 629 is "to help ensure that consumers are not forced to

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[4] Telecommunications Act of 1996, § 304 (adding Section 629 to the Communications Act of 1934, as amended, 47 U.S.C. § 549).

[5] 47 U.S.C. § 549(a). Specifically, the Act provides that the Commission's regulations shall promote the commercial availability of "converter boxes, interactive communications equipment, and other equipment used by consumers to access multichannel video programming and other services offered over multichannel video programming systems." *Id.*

[6] 47 U.S.C. § 549(b).

[7] 47 U.S.C. § 549(e).

purchase or lease a specific, proprietary converter box, interactive device or other equipment from the cable system or network operator."[8] In addition, the Act makes clear that Congress sought to preserve and protect the legitimate interests of MVPD providers in maintaining system integrity by prohibiting the adoption of regulations that would jeopardize security or limit an operator's ability to prevent theft of service.[9] Third, Congress clearly indicated its strong preference for market-based, consensus standards given its explicit instruction that the Commission work closely with industry-standards organizations.[10] Finally, Congress recognized the importance of promoting new technologies and encouraging innovation through an explicit statutory waiver requirement and sunset provision.

In its *Notice of Proposed Rulemaking*, the Commission sought comment on a broad range of issues related to implementation of Section 629. Among other issues, the Commission sought comment on the following major areas: (1) the scope and coverage of Section 629; (2) alternative methods for implementing the section, including the adoption of standards or policies, performance based rules, or industry efforts; (3) the extent of the section's requirement to protect system security; and (4) proposals to implement the section's

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8 *See* H.R. Rep. No. 104-458, at 181 (1996) ("Conference Report").

9 Congress noted that operators "have a valid interest, which the Commission should continue to protect, in signal security and in preventing theft of service." H.R. Rep. No. 104-204, at 112 (1995) ("House Report").

10 This Congressional preference was also clearly expressed in the 1996 Act's amendment to Section 624A of the Communications Act. In that context, Congress directed the Commission to ensure compatibility between televisions, VCRs, and cable systems through "narrow technical standards that mandate a minimum degree of common design and operation, leaving all features, functions, protocols, and other product and service options for selection through *open competition in the market*." 47 U.S.C. § 544a(a)(4) (emphasis added).

sunset and waiver provisions. As set forth below, Motorola submits that the Commission need only establish a consumer right to attach subject to certain limitations in order to implement the requirements of Section 629. This approach will avoid intrusive regulations that may impede innovation and instead allow market forces and voluntary industry standards efforts to maximize equipment availability where feasible and consistent with an operator's right to protect system security.

II. CONSISTENT WITH CONGRESSIONAL OBJECTIVES AND MARKETPLACE REQUIREMENTS, THE COMMISSION MUST ENSURE THAT ITS RULES CONTINUE TO PROMOTE INNOVATION AND REMAIN "TECHNOLOGY NEUTRAL."

A. The Commission Should Only Take Action That Promotes Innovation and Consumer Choice.

The Telecommunications Act of 1996 clearly seeks to promote competition in all telecommunications services and video programming distribution markets by removing existing regulatory barriers to entry. With the development of these markets and the emergence of new service providers, consumers will be able to select from an increasing number of products and services resulting from competition and innovation. This innovation is clearly developing in certain MVPD equipment markets today as demonstrated by the recent introduction of a variety of new products, including cable modems, digital set top boxes and new services offered through wireless and satellite distribution systems.[11] In order to ensure such continued innovation, the Commission must allow emerging markets to continue to

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[11] *See, e.g.*, John M. Higgins, *Big Digital, Data Tasks Await MSOs*, Multichannel News, Mar. 17, 1997, at 1.

develop by refraining from taking any regulatory steps that would remove existing incentives to bring these new products to market. Along these lines, the Conference Report makes clear that "the Commission avoid actions which could have the effect of freezing or chilling the development of new technologies and services."[12]

The emerging cable modem market provides a useful example of how an MVPD consumer equipment market can develop without the uncertainties that regulatory intervention often creates. Providing a competitive alternative to traditional wireline data transmission services, cable modems can offer consumers a high-speed data connection to the Internet and other applications using an upgraded hybrid fiber/coaxial cable transmission facility.[13] Consumer demand for cable modems has continued to increase, and a number of manufacturers have joined Motorola in developing these devices.[14] Although compatibility issues remain as customer requirements are still being finalized, industry efforts are already underway to develop certain standardized cable modem elements in order to increase the widespread appeal and availability of these devices.[15] Motorola is engaged in these efforts, as are many others.

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[12] Conference Report at 181.

[13] Motorola has developed the CyberSURFR ™ cable modem, which allows subscribers to connect personal computers to a hybrid/fiber coax cable system through a local area connection designed to provide throughput speeds up to 10 mbps in the downstream path and upstream data speeds up to 768 kbps.

[14] *See, e.g.,* Alan Breznick, *More Cable Modem Customers,* Cable World , Apr. 21, 1997; Leslie Ellis, *U.S. Robotics Enters Cable Modem Race*, Multichannel News, Mar. 17, 1997, at 22.

[15] *See MCNS Modem Interoperability Launched at NCTA Convention*, Communications Daily, March 18, 1997; *News*, Electronic Engineering Times, April 28, 1997, at 18 (noting

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Notwithstanding this progress, the market for cable modems and other consumer MVPD equipment is still developing. As with any new market, manufacturers are continuing to refine cable modem offerings as technology and consumer demands mature. Further, manufacturers are faced with the prospect of uncertain widespread consumer demand and the fact that development of one technology may be rendered obsolete faster than regulation can respond. Accordingly, the Commission must proceed carefully in taking any regulatory action in such nascent markets and must ensure that it preserve technical innovation and consumer choice.

B. The Act Requires That Section 629 Be Implemented In A "Technology Neutral" Manner.

The Act requires that the Commission promote new technologies and services. A fundamental precept in such promotion is adherence to the principle of "technological neutrality" in adopting any rules or policies to promote the commercial availability of consumer MVPD equipment.[16] In the context of commercial availability, this concept means that any rules or policies adopted should neither unfairly advantage nor disadvantage one type of service provider or technology over another. By adopting such an approach, the Commission will promote consumer benefits by allowing the marketplace to direct the development of technology and ensure that consumers are not limited to technical solutions

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IEEE's efforts towards developing a cable modem standard).

[16] *See, e.g.*, 47 U.S.C. § 157(a) ("[i]t shall be the policy of the United States to encourage the provision of new technologies and services to the public").

that become obsolete or are no longer cost-effective. Further, technological neutrality benefits consumers by promoting competition and retaining the incentive for manufacturers to continue to invest in developing new products that deliver innovative solutions and features.

The Commission has long recognized the importance of applying regulations in a technology neutral fashion in other contexts. For example, in modifying its rules governing the definition of a "cable television system" in 1977, the Commission noted the benefits to consumers and the Commission in adopting its rules in a technically neutral fashion.[17] In particular, the Commission explained that the "new definition's neutrality respecting technical configuration will allow system operators the flexibility to design the type of system best suited to the needs of subscribers."[18]

Similarly, in its proceedings to adopt rules governing new Personal Communications Services (PCS), the Commission considered, but declined to adopt, technical standards governing a range of features of these new services. The Commission's general approach in this field was to allow maximum flexibility in technical standards to allow the PCS industry to develop in a rapid, efficient and diverse manner, adopting PCS standards only where necessary to prevent signal interference.[19] In particular, the FCC rejected requests to adopt PCS

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[17] *In the Matter of Amendment of Part 76 of the Commission's Rules and Regulations with Respect to the Definition of a Cable Television System and the Creation of Classes of Cable Systems*, 63 FCC 2d 956 (1977). The definition of a "cable system" is now provided by statute. *See* 47 U.S.C. § 522(7).

[18] *Id.* at 965.

[19] *In the Matter of Amendment of the Commission's Rules to Establish New Personal Communications Services*, 9 FCC Rcd 4957, 5020-5021 (1994) ("*PCS Memorandum Opinion and Order*"). For example, the FCC has adopted power and height limitations to avoid objectionable interference to existing microwave systems and between new PCS systems. *See*

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interoperability requirements, determining that adoption of a single, mandatory standard would likely discourage innovation.[20] Furthermore, the Commission recognized that imposition of an interoperability standard was unnecessary because the PCS industry was in the process of developing a set of voluntary interoperability standards.[21]

The Commission has also recognized the importance of technological neutrality in adopting rules to implement a revised federal universal service support mechanism and in adopting rules for the land mobile services.[22] These past Commission principles likewise should lead to the adoption of polices or regulations that promote the commercial availability of consumer attachable MVPD equipment without favoring a particular technical approach or foreclosing the use or development of other technical solutions.

Motorola cautions the Commission that adopting mandated standards or performance criteria may prevent "technologically neutral" solutions. Mandated technical standards by

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id. at 5021, 5025-5034.

20 *PCS Memorandum Opinion and Order,* at 5022.

21 *Id.*

22 *In the Matter of Federal-State Joint Board on Universal Service*, CC Docket No. 96-45, ¶ 49 (rel. May 8, 1997) (Report and Order) ("[w]e concur in the Joint Board's recommendation that the principle of competitive neutrality in this context should include technological neutrality"); *In the Matter of Replacement of Part 90 by Part 88 to Revise the Private Land Mobile Radio Services and Modify the Policies Governing Them*, 10 FCC Rcd 10076, 10095 (1995), *recon.*, 11 FCC Rcd 17676 (1996) (noting that "technically neutral" private land mobile radio rules will permit "all manufacturers and modulation techniques to compete in an open marketplace"); *see also In the Matter of Proposed 708 Relief Plan and 630 Numbering Plan Area Code by Ameritech - Illinois*, 10 FCC Rcd 4596, 4604 (1995) (Declaratory Ruling) ("we believe that the administration of the [North American Numbering Plan] should not unduly favor one technology over another"); *In the Matter of Administration of the North American Numbering Plan*, 11 FCC Rcd 2588 (1995).

default will incorporate a particular technological approach and thus foreclose the development of other innovative or more efficient designs. For example, mandating a security standard would favor those conditional access mechanisms that could most easily adapt to the "standard solution" and would freeze development of security methods at that "standard," thereby increasing the likelihood that security could be breached. Motorola submits that the market, not regulators, should determine equipment features and design, and that regulation should not place one device or technical solution at a disadvantage vis-à-vis other comparable alternatives.

III. THE COMMISSION CAN SATISFY THE OBJECTIVES OF THE ACT BY ESTABLISHING A RIGHT TO ATTACH CONSUMER EQUIPMENT TO MVPD NETWORKS.

A. A Right To Attach Promotes the Availability of Consumer MVPD Equipment.

A consumer right to attach is a simple and potentially potent solution that can meet the Act's objectives by creating a market for consumer MVPD equipment through existing retail channels for consumer electronic and telecommunications equipment. This solution is entirely consistent with the Act's major objective to promote competition and consumer choice in the market for certain types of consumer MVPD equipment as long as cable operators can address legitimate issues of security, signal leakage, and other problems inherent in today's cable systems. Both Congress and the Commission clearly recognize that a competitive market for such equipment can benefit consumers by encouraging development of new services, ensuring competitive equipment prices, and maximizing the ability to select between competing equipment offerings based upon price and performance criteria.

1. The Commission can permit a right to attach subject to reasonable limitations such as preventing network harm or signal leakage.

The Commission can adopt a right to attach that gives consumers a right to connect equipment to an MVPD network provided that the equipment does not cause harm to the network or cause harmful signal leakage. This right would enable a consumer to lease or purchase and attach any equipment that is not part of the MVPD's distribution network equipment from either the MVPD operator or other sources.[23] Similar to the attachment right developed in the context of the telephone network, this right gives consumers greater freedom to select among alternative products, while it maintains an operator's right to control system security and technical operation. It therefore may be the least intrusive alternative in meeting the Commission's obligations under the 1996 Act.

In order to protect operators' interest in system integrity, Motorola proposes that any right to attach must be subject to the reasonable limitation that the equipment does not harm the MVPD's network. In general, this harm includes both technical harm to the network and harm resulting from circumstances that compromise system security. Technical harm should include disrupting the operation of an MVPD's network, causing interference to another subscriber's signal or otherwise affecting the operating characteristics of the network, and in the context of cable television, would also include the increased potential for signal leakage.[24]

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[23] Currently, this right would also be limited as a practical matter due to compatibility of equipment with a particular cable system.

[24] As suggested in the *Notice*, equipment signal leakage issues can continue to be addressed through the Commission's existing Part 15 rules. With respect to consumer installation and removal of equipment, Motorola suggests that the Commission needs to clarify

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Harm related to system security may result from any device that adversely impacts an operator's ability to maintain system security or prevent theft of service, such as products that defeat billing and collection systems or allow consumers to gain unauthorized access to various services offered over the network.

2. A right to attach can promote the availability of consumer equipment through a variety of sources.

As operators and suppliers implement basic right-to-attach rules, manufacturers can rely on well-established retail commercial channels for consumer electronic equipment, such as retail stores, mail order catalogues and the Internet. In addition, competitive markets will encourage suppliers and other industry representatives to reach consensus-based standards in order to increase availability and to compete based on equipment features and price. Motorola thus believes that its proposed right to attach regulation is sufficient to promote the availability of MVPD consumer equipment and meet the Act's requirements.

With a right to attach, a consumer is free to choose among competing suppliers. In the telephone context, a similar right generated tremendous growth in the market for consumer telephone equipment. As consumers requested new types of equipment and features -- such as telephones with enhanced features and answering machines -- manufacturers were encouraged to create new products to meet this demand. Likewise, the market for MVPD consumer equipment can develop with a similar right to attach.

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the obligations a subscriber presumably would have to prevent signal leakage in the situation where a subscriber (or an entity selected by the subscriber and not controlled by the cable operator) connects or removes a device from a cable service distribution network.

In addition, such an approach will promote availability of devices by allowing manufacturers to design products in light of a consumer's right to attach. Manufacturers assess a wide variety of factors when designing new products, including the anticipated distribution channels for the product and how the product will be used by consumers. By knowing in advance that a consumer will have the right to attach specific types of equipment to an MVPD network, manufacturers can take a number of steps in the development process to anticipate consumer demand for features and increase the marketability of a particular device. For example, a manufacturer could seek to enhance marketability of devices by developing more "consumer friendly" installation procedures or more specifically targeting a product's features to a particular set of consumers.[25] In turn, these steps can increase availability by making products easier for consumers to use and connect to an MVPD network, and manufacturers can respond quickly to a market for new equipment features or products.

The availability of existing commercial distribution channels will promote availability of devices by ensuring that consumers can readily gain access to new products. A variety of well-developed distribution channels are available today as a result of highly competitive markets for consumer home electronic equipment, such as telephone CPE, cellular phones, pagers and computers. For example, consumers have a wide selection of equipment through local and national retail stores, mail order catalogues, the Internet, and directly from the manufacturer.

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[25] A key concern with deployment of cable modems today is the additional resources operators must have to install these products in the home, and to provide customer support after installation.

B. Ongoing Market Developments In Conjunction With A Right To Attach Obviate the Need For Additional Regulation At This Time.

1. Market forces and technological developments will ensure the availability of cable modems.

In the *Notice*, the Commission asks whether it should tailor its commercial availability requirements based upon the state of competition within a particular MVPD market or particular product.[26] Specifically, the Commission asks whether it should first address "emergent markets" such as the market for cable modems where "a significant embedded base of equipment does not yet exist."[27]

Motorola suggests that this proposal has it exactly backwards. Any attempt to "address" emerging markets through regulation will only serve to forestall the development of a truly competitive market, thereby frustrating an underlying purpose of the Act. The Commission should seek to foster this natural competitive dynamic, rather than taking any action that would disrupt the type of competition clearly sought by Congress.

In particular, the Commission need not take any steps to regulate cable modems. Regulation of cable modems is unnecessary and would decrease the availability of such devices in light of ongoing efforts to develop consensus-based industry standards. Currently, a broad base of industry groups are already working vigorously on voluntary standards and specifications that seek to promote interoperability between cable modem platforms by establishing certain technical and operational parameters and making these standards widely

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26 *Notice,* ¶ 19.

27 *Id.*

available.[28] A number of manufacturers, including Motorola, are participating in development of the Multimedia Cable Network Systems (MCNS) specification underway by CableLabs. Further, consideration of cable modem standards by the IEEE has begun under committee 802.14, and the involvement of other standards organizations, such as the American National Standards Institute (ANSI) may also occur. While these efforts are not yet complete, they provide a clear example of the type of industry solution that can emerge when market forces are allowed to operate unencumbered by regulation. In order to promote these developments and not thwart these efforts, the Commission should not take any regulatory action with respect to cable modems other than establishing a general "right to attach."

2. Any regulations adopted to promote commercial availability should not extend to equipment that is used to deliver telephone service.

The 1996 Telecommunications Act sought to promote cable operator entry into the market for telephony services by removing local regulatory barriers to cable company entry into the telecommunications market. As a result, the marketplace for equipment designed to allow consumers to receive telephone service over existing cable facilities has begun to develop. As these markets evolve, manufacturers will develop new products and consumers will be faced with a variety of technical and service options.

To this end, Motorola has developed its CableComm product that provides access to the public switched telephone network over a cable operator's hybrid fiber/coaxial cable transmission path. Where the cable operator has deployed this technology, a customer can

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[28] *See, e.g,* Shira Levine, *A Standard Measure RF Specification Rallies Cable Modem Manufacturers*, Telephony, Mar. 24, 1997.

connect a telephone into a standard RJ-11 interface connector and access the public switched telephone network. A connection to enable telephone service is provided through a "cable access unit" at the customer's premise and corresponding equipment installed by the operator at its headend location, where its cable plant connects to the existing local telephone exchange.

Motorola submits that the Commission should follow a practical approach to addressing equipment used to deliver telephone service over a cable system. Congress clearly sought to promote new competitive entry into the market for telecommunications services, and the Commission should not adopt any equipment compatibility rules that would discourage such a result. Accordingly, any equipment used by a cable operator that provides the bridge between a consumer's home telephone wiring and the operator's network should be treated as network equipment. This approach will avoid delaying implementation of telephony services over cable systems and will ensure that equipment used in the operator's network is not subject to any unnecessary commercial availability requirement.

3. Neither portability across cable systems nor interoperability among different types of MVPD systems is practical at this time.

The *Notice* asked what steps, if any, the Commission should take to ensure that MVPD consumer equipment is "interoperable" (*i.e.*, a device that will function with different types of MVPDs in the same area).[29] To this end, the Commission queried how it could ensure the "optimal degree" of interoperability without "unduly impeding" retail availability at the

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[29] *Notice*, ¶ 24.

outset.[30] Portability and interoperability are complex issues with a number of situations to be considered.

Portability Within The Same Service. Where is a wide degree of variation in operating characteristics and conditional access schemes even within the same service that precludes a substantial degree of portability at this time. For example, a given cable set-top box is not necessarily portable across the areas served by different operators so a consumer who moves may need a different set-top box, even if they were available at the retail level. The market, however, is already poised to promote additional commonality as operators and manufacturers vie to compete for consumer dollars, as evidenced by the fact that portability is one of the goals of the MCNS standards effort for cable modems.

Interoperability Across Different Services. At present, operators use a variety of different technologies to deliver mulichannel video programming services to consumers, including cable, wireless services, and satellite services. At the highest level, these platforms differ in that some, such as cable television service and Multichannel Multipoint Distribution Service, primarily rely on analog technology to deliver signals to consumers. Other platforms, such as Direct Broadcast Satellite (DBS) and the Asynchronous Digital Subscriber Line (ADSL) technology used by some telephone companies, offer service to subscribers using digital technology. While the trend toward digital technology may likely continue, fundamental interoperability questions remain while this disparity exists.

In light of these differences, it is by no means clear that interoperability between different MVPD platforms is even technically feasible, cost effective, or demanded by

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30 *Notice,* ¶¶ 24, 65-66.

consumers. At the outset, one roadblock to interoperability is the different transmission formats and modulation schemes used by various platforms. In addition, the disparity in technical operation, modulation schemes, and conditional access methods used to protect against signal theft present significant obstacles to communications between different types of MVPD platforms. Accordingly, these differences should not be resolved by regulatory decisions that involve selection of standards or other polices and instead should be left to the marketplace.

Incompatibility of The Telephone Regulatory Model With The MVPD Market. Further, there are critical differences between the MVPD distribution market and the development of the telephone market that precludes adopting interoperability requirements based on this model. First, unlike the telephone context, most MVPD systems control access to their networks through customer equipment and use this equipment to maintain system security. Second, MVPD operators need to have the ability to control interference with other users of the system, and cable operators are obligated to protect against signal leakage. Third, contrary to the wide disparity that exists today in the MVPD market, the telephone industry emerged as a nationwide monopoly market where standards were well defined by one company. These differences and the differences among existing MVPD platforms preclude the adoption of any regulations that mandate interoperability.

Legislative Requirement. Moreover, the Act does not require that the Commission attempt to resolve the existing differences between competing video delivery platforms or require that the MVPD market approaches the degree of interoperability found in telephone markets. Nowhere in Section 629 is the Commission instructed to mandate interoperability in adopting regulations to make equipment more widely available. Rather, Congress recognized

these technical differences, and instead, sought to promote competitive markets where possible and allow consumers, not regulators, to dictate the features, functions and prices of consumer MVPD equipment.

The market will encourage increased portability, and possibly, interoperability across different services, if consumer requirements so dictate. However, Motorola believes that a regulatory interoperability requirement, even if feasible, would not be in the public interest. As an initial matter, any mandated interoperability requirement could raise considerably the cost of consumer equipment because manufacturers would be required to incorporate different technologies into a "universal" solution despite a lack of consumer demand for such a requirement. Similarly, such a requirement would foreclose other, less expensive alternatives for customers who do not wish to purchase an interoperable system. Finally, a regulatory interoperability requirement would impede innovation by creating additional expense and practical difficulty in implementing new services that require a new or modified device. Industry efforts such as those underway in CableLabs and IEEE should be able to reconcile the various tradeoffs more readily than a regulatory mandate. Accordingly, the Commission should leave "interoperability" to the marketplace.

4. The Commission should liberally apply the Act's waiver provision to promote the deployment of new technology.

Motorola is concerned that a very strict interpretation of the 1996 Act's requirements concerning bundling of services and equipment would actually reduce competition and raise consumer prices. The Act's requirement that an MVPD must provide unbundled equipment and service should not be construed strictly to prevent an operator from providing equipment to consumers through an efficiently priced package of equipment and service. To this end, the

Commission should liberally apply its waiver authority under the Act to allow the joint provision of equipment and service where it is necessary to promote the deployment of a new product or technology.[31] For example, such an approach may be warranted to speed introduction of a new product to consumers despite the fact that initial product costs have not yet decreased as a result of economies of scale. Accordingly, Motorola submits that all MVPDs, including cable operators, should have the same degree of flexibility in bringing facilities-based services to the market.

IV. STANDARDS SHOULD BE DRIVEN BY THE MARKET, NOT REGULATION.

Motorola agrees with the observation in the *Notice* that some degree of standardization may be helpful to promote robust competition in equipment markets and the increased availability of certain devices. A certain degree of standardization can benefit both consumers and manufacturers by allowing manufacturers to achieve economies of scale and compete on product features, thereby increasing the availability of equipment while reducing manufacturing costs. The Act also recognizes the benefits of standardization and establishes a clear role for private industry standards in promoting commercial availability. While the Act requires the Commission to consult such industry organizations, it does not require the FCC to set or require standards. Motorola believes that any standardization in the context of commercial availability should result from voluntary, private industry efforts, rather than any Commission mandate.

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[31] 47 U.S.C. § 549(c).